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EXAMINER	
SENFI, BEHROOZ M	
ART UNIT	**PAPER NUMBER**
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/085,684	SHEN ET AL.	
	Examiner	Art Unit	
	BEHROOZ SENFI	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-19 and 21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19 and 21-24* is/are allowed.

6)☒ Claim(s) *1-12,14-18 and 25-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Application/Control Number: 10/085,684

Art Unit: 2621

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks, filed 12/03/2007; with respect to the rejection(s) of claim(s) 1 - 29 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made, see below.

Claims 13 and 20 have been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 11, 14 and 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 2002/0126752) in view of Panusopone et al. (US 6,647,061) and Vetro et al (US 6,671,322).

Regarding claim 1, Kim '752 teaches, a method for reducing the resolution of media data (e.g. video transcoding for reducing the HD resolution to SD resolution as shown in fig. 3, page 3, paragraph 0043 of Kim), comprising;

accessing compressed input data for a frame of a plurality of frames (please see, fig. 3, MPEG-2 compressed bit-stream of plurality of pictures/frames "e.g. MPEG-2

compressed bit-stream, comprises compressed data for a frame/pictures, page2, paragraphs 0020 – 0021 and page 3, paragraph 0048" being accessed by the processing unit 103 of Kim), wherein the frame is at a first resolution and comprises a plurality of macro-blocks (please see; figs. 3 – 6B, abstract, lines 6 – 8 and page 3, paragraphs 0043 and 0047 of Kim, where the input comprises high resolution frames/picture "e.g. HD" and comprises a plurality of macro-blocks), wherein the plurality of macro-blocks comprises a plurality of subsets of macro-blocks that are to be encoded as a single output macro-block (please see; figs. 6A – 6B, subsets of macro-blocks "e.g. MB1 – MB4" to be encoded as a single output macro-block "e.g. single output macro-block shown in figs. 6A and 7, page 7, paragraph 0116 of Kim);

selecting a data processing function according to the number of macro-blocks in a subset of the plurality of subsets that are characterized as intra-coded, wherein the selecting is performed for each of the plurality of subsets (please see; fig. 6B, the selection of intra or inter data processing function is accordance to the result of the number of intra-coded macro-blocks in each subset of the plurality of subsets "e.g. intra-coded macro-blocks in a subset, such as MB1, MB2, MB3, MB4 and page 4, paragraph 0053 and page 7, paragraphs 0130 – 0131, of Kim);

if less than all of the macro-blocks in the subset are characterized as intra-coded (i.e. as shown in fig. 6B, subset MB1, includes five intra coded "e.g. less than all") and if the number of macro-blocks in the subset characterized as intra-coded satisfies a threshold (please see; fig. 5 of Kim, step 503, shows that if the number of macro-blocks in the subset characterized as intra-coded greater than 3 "e.g. satisfies a threshold 3", page 7,

paragraph 0132 of Kim) down-sampling/downscaling the subset of macro-blocks to generate the output macro-block comprising down-sampled/downscaled data at a second resolution that is reduced relative to the first resolution (please see; fig. 3, transcoding operation “e.g. down-sampling/downscaling” of macro-blocks to generate compressed down-sampled/downscaled “e.g. reduced” data at a second resolution “e.g. SD output” relative to first resolution “e.g. HD input”, page 3, paragraphs 0043 and 0047 of Kim), wherein the accessing, selecting and down-sampling/downscaling are performed prior to transmitting (please see; fig. 3, page 1, paragraph 0002 of Kim, the transcoding operation as shown in fig. 3; including accessing, selecting and down-sampling are performed prior to transportation/storage).

Although; Kim teaches down-sampling/downscaling macro-blocks, but is silent in regards to explicit of, compressed down-sampled data; in other words, the down-sampling takes effect in compressed domain.

Panusopone (i.e., fig. 5B, element 520, DCT scaling and col. 4, lines 44 – 61) suggest the process of down-sampling in the compressed domain to reduce the complexity of the system.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Kim and Panusopone, as a whole, to reduce the complexity and provide an output bit-stream that can fit in the practical bandwidth for streaming video, as suggested by Panusopone (i.e., col. 3, lines 19 – 21).

Furthermore, the combination of Kim and Panusopone teaches, transmission of the output macro-block comprising compressed data, as discussed above. However fails to explicitly show, wireless device over the wireless network.

Vetro (i.e., fig. 7, shows transmission data over the wireless network 703, col. 6, lines 29 - 35) teaches transmission data over the wireless network.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Kim and Vetro, as a whole, for broadcasting data over the wireless network, and minimizing the contention for scarce resources, as suggested by Vetro (i.e. fig. 7, transmitting network 703, col. 1, lines 53 – 56 and col. 6, lines 29 - 35).

Regarding claim 2, the combination of Kim and Panusopone teaches, motion compensation process, e.g. generating motion vectors for the frame at second resolution, a lower resolution (Kim, MC units 16 and 39 shown in figs. 7 and 8, page 4, paragraph 0063).

Kim is silent in regards to explicit of, using the motion vectors from the input data.

Vetro in the same field (i.e. fig. 10, shows motion vector mapping 1020, col. 8, lines 53 – 56) teaches, generating motion vectors for the frame at the second resolution, e.g. reduced resolution, using the motion vectors from the input data, e.g. full resolution.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Kim and Vetro, as a whole, by performing motion vector mapping using the input data, e.g. full resolution, to yield a set of reduced resolution, e.g. second resolution, motion vectors, to

provide a balance between complexity and quality in the transcoder and to compensate for drift during transcoding, as suggested by Vetro (i.e. col. 4, lines 30 – 34).

Regarding claim 3, the combination of Kim and Panusopone teaches, compensation process, e.g. generating motion vectors for the frame at second resolution, a lower resolution (Kim, MC units 16 and 39 shown in figs. 7 and 8, page 4, paragraph 0063) and further teaches selecting motion compensating vector by using average and median values of the motion vectors (Kim, figs. 5 and 7 - 8, page 4, paragraph 0056 and pages 7 - 8, paragraphs 0136 – 0139).

Kim does not explicitly states, motion vectors for the frame at the second resolution are generated by averaging the motion vectors from the input data.

Vetro in the same field (i.e. fig. 10, motion vector mapping 1020, and col. 4, lines 3 - 10) teaches, motion vectors for the frame at the second resolution, e.g. reduced resolution, are generated by averaging the motion vectors from the input data, e.g. full resolution.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Kim and Vetro, as a whole, by performing motion vector mapping from full to reduce motion vectors by applying averaging or median filters, to provide a balance between complexity and quality in the transcoder and to compensate for drift during transcoding, as suggested by Vetro (i.e. col. 4, lines 30 – 34).

Regarding claim 4, the combination of Kim, Panusopone and Vetro teaches, wherein the input data are compressed according to a discrete cosine transform based

compression scheme (i.e. MPEG-2 input bit-stream/data as shown in fig. 3 of Kim, are compressed according to a discrete cosine transform compression scheme), wherein the input data comprises discrete cosine transform (DCT) coefficients (i.e. fig. 3 of Kim shows the input data stream is compressed according to MPEG-2, which comprises discrete cosine transform (DCT) coefficients “e.g. page 1, paragraph 0007”).

Regarding claim 5, the combination of Kim, Panusopone and Vetro teaches, generating an output data stream comprising macro-block at the second resolution (please see; fig. 3 of Kim, page 3, paragraph 0043, where indicates video transcoder for transforming HD “high resolution” to a second resolution as output “e.g. SD, low/standard resolution”) and determining a bit-rate for the output data stream using the DCT coefficients from the input data (please see; fig. 3, bit-rate control unit 600 controls the quantization “fig. 3, unit 33” using DCT “fig. 3, unit 32” to determine the bit-rate for the output data stream, page, 8, paragraph 0151 and page 11, paragraph 0198 of Kim).

Regarding claim 6, the combination of Kim, Panusopone and Vetro teaches, wherein data are encoded according to a first compression scheme “e.g. input compressed MPEG-2 bit-stream” and the output data stream are encoded according to a second compression scheme, e.g., MPEG-4 (please see, figs. 5A – 5B of Panusopone).

Regarding claim 7, the combination of Kim, Panusopone and Vetro teaches, wherein the media data are selected from the group consisting of: video data, audio data, image data, graphic data and web page data (i.e. fig. 3 of Kim, shows MPEG-2 bit-stream as input comprising video and audio data, page 5, paragraphs 0079 – 0081).

Regarding claim 8, the limitations claimed are substantially similar to claim 1 above; therefore the ground fore rejecting claim 1 also applies here.

Regarding claim 9, the combination of Kim, Panusopone and Vetro teaches, determining a coding type for the output macro-block according to the number of macro-blocks characterized as the first coding type and the number of macro blocks characterized as the second coding type (please see; fig. 6B of Kim, shows coding type, such as intra coded and/or inter-coded macro-blocks, which consider as first coding type “e.g. intra and/or inter” and second coding type) and selecting the data processing function according to the coding type of the output macro-block (please see; figs. 5 and 6B of Kim, the selection of intra or inter data processing function is according to the result of number of intra-coded macro-blocks in each subset of the plurality of subsets “e.g. intra-coded macro-blocks in a subset of the plurality of subsets, such as MB1, MB2, MB3, MB4, that are characterized as intra-coded, page 4, paragraph 0053 and page 7, paragraphs 0128 – 0131 of Kim).

Regarding claim 10, the combination of Kim, Panusopone and Vetro teaches, constructing a prediction macro-block for each macro-block in the subset of macro-blocks by applying motion compensation to a respective macro-block in a reference frame (i.e. fig. 3, motion compensation units 103 and 39 of Kim), wherein the constructing comprises a decoding function such that the predicted macro-blocks comprises decompressed data (i.e. fig. 3, decoder 103 of Kim), down-sampling predicted macro-block to generate a down-sampled macro-block (i.e. fig. 3 of Kim, the transcoding function, which includes down-sampling/downscaling unit 300 for

downscaling the macro-blocks, as discussed earlier in the above action) and encoding the down-sampled/downscaled macro-block to generate the output macro-block (i.e. fig. 3 of Kim, encoder 202, for encoding downscaled macro-blocks).

Regarding claim 11, the combination of Kim, Panusopone and Vetro teaches, wherein, if all of the plurality of macro-blocks are characterized as the second coding type, e.g. figs. 5 and 6B of Kim, illustrates coding type of macro-blocks and page 7, paragraph 0128 – 0132, the data processing functions comprises; down-sampling the subset of macro-blocks to generate the output macro-block comprising compressed down-sampled data (please see, figs. 3 of Kim, thus the output macro-block, e.g. output of the transcoder, comprises compressed down-sampled data at a reduced resolution, e.g. SD resolution).

Regarding claim 14, the combination of Kim, Panusopone and Vetro teaches, wherein if the number of macro-blocks in the subset characterized as the second coding type satisfies a first threshold (e.g. figs. 5 and 6B of Kim, step 503, shows that if the number of macro-blocks in the subset characterized as second coding type “e.g. intra-coded” greater than 3 “e.g. satisfies a threshold 3”, page 7, paragraph 0132) the data processing functions comprises; constructing a prediction macro-block for each macro-block in the subset of macro-blocks by applying motion compensation to a respective macro-block in a reference frame (i.e. fig. 3, the loop of units 13 – 16 construct prediction macro-block for each macro-block in the subset of macro-blocks by applying motion compensation unit 103 of Kim), wherein the constructing comprises a decoding function such that the predicted macro-block comprises decompressed data (i.e. fig. 3,

decoding function 103 of Kim, for decoding the macro-block, where the construct prediction macro-block, e.g. in the loop of units 13 – 16, would comprise decompressed data), encoding each predicted macro-block (i.e. fig. 3, encoder 202 of Kim, for encoding predicted macro-block) and down-sampling predicted macro-blocks (i.e. fig. 3, the down-sampling take place in unit 300 for down-sampling predicted macro-block, e.g. outputted from the loop units 13 – 16 of fig. 3 of Kim) and macro-blocks characterized as the second coding type to generate the output macro-block comprising compressed down-sampled data (i.e. figs. 5 and 6B of Kim, shows characterizing macro-blocks coding type "e.g. intra-coded and/or inter-code macro-blocks" to generate the output macro-block comprising compressed down-sampled data, e.g., as illustrated in fig. 3 of Kim, the output of the transcoding operation comprises compressed down-sampled data).

Regarding claim 16, the combination of Kim, Panusopone and Vetro teaches, wherein the input data comprise motion vectors (i.e. fig. 3, page 1, paragraph 0007 of Kim) comprising; generating a motion vector for the output macro-block by averaging the motion vectors (i.e. fig. 5, units 510, 505, page 4, paragraph 0056 of Kim).

Regarding claim 17, the combination of Kim, Panusopone and Vetro teaches, wherein the input data are compressed according to a discrete cosine transform based compression scheme (i.e. MPEG-2 input bit-stream/data as shown in fig. 3 of Kim, are compressed according to a discrete cosine transform compression scheme).

Regarding claim 18, the combination of Kim, Panusopone and Vetro teaches, generating a quantization parameter for the output macro-block using quantization

parameters for the plurality of macro-blocks (please see; fig.3, control unit 600, including the activity and quantizing parameter generating/calculating units 602 – 604 and 33, page 2, paragraph 0031, page 3, paragraph 0047 and page 4, paragraph 0060 of Kim).

4. Claims 12, 15 and 25 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim '752 in view of Panusopone '061 and Vetro '322 and further in view of Brusewitz (US 2003/0021345).

Regarding claim 12, the combination of Kim, Panusopone and Vetro teaches, down-sampling/downscaling of the input data to generate down-sampled/downscaled compressed output data, as discussed in the claim 1 above.

Kim does not explicitly show, decoding the compressed down-sampled data, as specifies in the claim.

Brusewitz in the same field (i.e. fig. 3, downscaling/down-sampling unit 132, page 2, paragraphs 0027 of Brusewitz) teaches decoding the compressed down-sampled data.

In view of the above it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve the video processing apparatus as taught by Kim in accordance with the teaching of Brusewitz, which results in a considerable decrease in decoding complexity and requires less memory and lower CPU power usage as suggested by Brusewitz (i.e. fig. 3, abstract, lines 5 – 7, page 1, paragraphs 0008 and 0009 of Brusewitz).

Regarding claim 15, the limitations claimed are substantially similar to claim 12 above; therefore the ground for rejecting claim 12 also applies here.

Regarding claim 25, the combination of Kim, Panusopone and Vetro teaches, a computer readable medium having computer readable program code embedded herein for causing a computer system to perform a method (i.e. the transcoding operation and the operational flowchart of the video compression as illustrated in figs. 3 and 5 are computer implemented, wherein the program code/software when embedded on to a computer readable medium for causing a computer to perform the operational flowchart of the video compression, as shown in fig. 5 of Kim, would have been necessitated).

The combination of Kim, Panusopone and Vetro is silent in regards to explicit of, decoding the compressed down-sampled data, to generate decompressed down-sampled data at the second resolution, as specifies in the claim.

Brusewitz in the same field (i.e. fig. 3, downscaling/down-sampling unit 132, page 2, paragraphs 0027 of Brusewitz) teaches, decoding the compressed down-sampled data, to generate decompressed down-sampled data at the second resolution.

In view of the above it would have been obvious to one having ordinary skill in the art at the time of the invention was made to improve the video processing apparatus as taught by Kim in accordance with the teaching of Brusewitz, which results in a considerable decrease in decoding complexity and requires less memory and lower CPU power usage as suggested by Brusewitz (i.e. fig. 3, abstract, lines 5 – 7, page 1, paragraphs 0008 and 0009 of Brusewitz). Furthermore; Although, Kim teaches

transmitting the output macro-block comprising compressed down-sampled/downscaled data, as discussed in the above action.

Kim does not explicitly show, wireless device over the wireless network, as specifies in the claim.

Vetro in the same field (i.e., fig. 7, transmitting network 703, and col. 6, lines 29 - 35) teaches, transmitting output data to a wireless device over the wireless network.

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teaching of Kim and Vetro, as a whole, for broadcasting data over the wireless network, and minimizing the contention for scarce resources, as suggested by Vetro (i.e. fig. 7, transmitting network 703, col. 1, lines 53 – 56 and col. 6, lines 29 - 35).

Regarding claim 26, Kim teaches, accessing motion vectors for the frame at the first resolution (i.e. fig. 3, MC processing unit 16 for the frame at first resolution, of Kim).

Kim does not explicitly states “deriving motion vectors for the frame at the second resolution from the motion vectors from the frame at the first resolution”.

Vetro in the same field of video transcoding (i.e. fig. 10, motion vector mapping 1020, and col. 8, lines 53 – 56) teaches generating motion vectors for the frame at the second resolution “e.g. reduced resolution” using the motion vectors from the input data “e.g. full resolution”.

In view of the above, it would have been obvious to one having ordinary skill in the art to at the time of the invention was made to modify the video transcoding apparatus of Kim in accordance with the teaching of Vetro by performing motion vector

mapping from the input data “e.g. full resolution” to yield a set of reduced resolution, e.g., second resolution, motion vectors, to provide a balance between complexity and quality in the transcoder, as suggested by Vetro (please see; col. 4, lines 30 – 34).

Regarding claim 27, Kim teaches, motion compensation process “e.g. generating motion vectors” in video transcoding for downscaling video to a lower resolution (i.e. figs. 5 and 7 - 8, MC units 16 and 39, page 4, paragraph 0063 of Kim), Kim further teaches selecting motion compensating vector by using average and median values of the motion vectors (i.e. figs. 5 and 7 - 8, page 4, paragraph 0056 and pages 7 - 8, paragraphs 0136 – 0139 of Kim).

Kim does not explicitly show, motion vectors for the frame at the second resolution are generated by averaging the motion vectors for the frame at the first resolution.

Vetro in the same field (i.e. fig. 10, motion vector mapping 1020, col. 4, and lines 3 - 10) teaches motion vectors for the frame at the second resolution, e.g., reduced resolution, are generated by averaging the motion vectors from the input data, e.g., full resolution.

In view of the above, it would have been obvious to one having ordinary skill in the art to at the time of the invention was made to modify the video transcoding apparatus of Kim in accordance with the teaching of Vetro by performing motion vector mapping from full to reduce motion vectors by applying averaging or median filters, to provide a balance between complexity and quality in the transcoder and to compensate for drift during transcoding, as suggested by Vetro (i.e. col. 4, lines 30 – 34).

Regarding claim 28, Kim teaches, wherein the input data are compressed according to a discrete cosine transform based compression scheme (i.e. MPEG-2 input bit-stream/data as shown in fig. 3 of Kim, are compressed according to a discrete cosine transform compression scheme), wherein the input data comprises discrete cosine transform (DCT) coefficients (i.e. fig. 3 of Kim shows the input data stream is compressed according to MPEG-2, which comprises discrete cosine transform (DCT) coefficients "e.g. page 1, paragraph 0007" of Kim).

Regarding claim 29, Kim teaches, accessing quantization parameters for the frame at the first resolution and deriving quantization parameter for the frame at the second resolution from the quantization parameters for the frame at the first resolution (please see; fig. 3, control unit 600 of Kim, thus the controller adapted to determine a quantization step size for a frame at the second resolution according to quantization parameters from the quantization parameters for the frame at the first resolution/input data "e.g. fig.3, control unit 600, varying a step size of a quantizing unit 33 using a result of the calculation, page 2, paragraph 0031, page 4, paragraph 0060 and page 5, paragraph 0086" of Kim).

Allowable Subject Matter

5. Claims 19 and 21 – 24 are allowed.

6. The following is an examiner's statement of reasons for allowance: The prior art of the record fails to anticipate or fairly suggest the specific of "wherein the subset of macro-blocks is directed by the mode selector to the down-sampler if less than all of the macro-blocks in the subset are characterized as intra-coded and if the number of

macro-blocks characterized as intra-coded exceeds a threshold, wherein otherwise the subset of macro-blocks is directed by the mode selector to the relay, along other limitations" as specifies in the claim.

Claims 21 – 24 are allowed with respect to dependency to allowable independent claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Behrooz Senfi whose telephone number is 571-272-7339. The examiner can normally be reached on M-F 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Behrooz Senfi
Examiner
Art Unit 2621

/Behrooz Senfi/